

## WHAT IS CLAIMED IS:

1 1. A wireless audio distribution system, comprising:  
2 a wireless transmitter, responsive to a plurality of audio  
3 input channels, for transmitting a encoded digital bitstream  
4 serially combining each of the audio input channel, the encoded  
5 digital bitstream further including control data disbursed  
6 therein;  
7 a receiver, responsive to the transmitted encoded digital  
8 bitstream, for decoding and demultiplexing the digital bitstream;  
9 a manual selector switch, connected to the receiver device  
10 for selecting one or more of the audio input channels to be  
11 reproduced; and  
12 a sound producing device for selectively reproducing the one  
13 or more selected audio channels in accordance with the control  
14 data.

1 2. The invention of claim 1 further comprising:  
2 an auto-off circuit automatically disconnecting power from  
3 the receiver when reproducible data from none of the audio input  
4 channels has been received for a predetermined time period.

1 3. The invention of claims 1 or 2, wherein the sound producing  
2 device further comprises:  
3 a comparator for comparing two segments in different fixed  
4 positions within the bitstream to detect an error event.

1 4. The invention of claim 3, wherein the sound producing device  
2 further comprises:  
3 a circuit for muting the selected audio channels in response  
4 to a predetermined number of error events.

1 5. The invention of claim 4, wherein the encoded bitstream  
 2 further comprises:  
 3 a header section; and  
 4 a body section including a plurality of fixed sequences of  
 5 data representing audio from each of the audio input channels,  
 6 the sequences separated by control data.

1 6. The invention of claim 5 wherein the header further  
 2 comprises:  
 3 synchronization signals for synchronizing the decoding of  
 4 the digital bitstream with the transmission of that bitstream.

1 7. The invention of claim 6 wherein the wireless audio  
 2 distribution system is positioned in a vehicle including a  
 3 headliner and the wireless transmitter is positioned behind the  
 4 headliner.

1 8. The invention of claims 1 or 2, wherein the encoded  
 2 bitstream further comprises:  
 3 a header section; and  
 4 a body section including a plurality of fixed sequences of  
 5 data representing audio from each of the audio input channels,  
 6 the sequences separated by control data.

1 9. The invention of claim 8 wherein the header further  
 2 comprises:  
 3 synchronization signals for synchronizing the decoding of  
 4 the digital bitstream with the transmission of that bitstream.

1 10. The invention of claim 9 wherein the wireless audio  
 2 distribution system is positioned in a vehicle including a

3 headliner and the wireless transmitter is positioned behind the  
4 headliner.

1 11. The invention of claims 1 or 2 wherein the wireless audio  
2 distribution system is positioned in a vehicle including a  
3 headliner and the wireless transmitter is positioned behind the  
4 headliner.